

March 2, 2012

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**Subject: Comment on the Draft Rangewide Indiana Bat Summer Guidance**

To Whom It May Concern:

I appreciate the opportunity to provide comments on the draft guidance for Indiana bat surveys issued by the U.S. Fish and Wildlife Service (USFWS), and hope my comments based on 22 years of Indiana bat experience, are helpful in preparing the final draft of the document. I have organized my comments based on Page #'s and Paragraph #'s where each apply within the draft guidance document.

**PAGE 1**

**Paragraph 1:**

"The following phased approach, which includes acoustic, mist net, radio-tracking, and emergence surveys, once finalized will supersede the 2007 Indiana bat Mist Netting Guidelines."

**Comment:** I think this approach is meant to be phased by the USFWS, but because Indiana bats are presumed to be present with positive detection during Phase 2 (Acoustical) Surveys, I see very little incentive for developers to conduct mist net surveys and radio-tracking studies. I think if increased (more than required under 2007 guidelines) netting efforts fail to document the species then the USFWS should consider the positive detection within the error limits of the bat call identification analysis program used to identify the calls. I also think that increased amounts of netting to attempt to document Indiana bats should be based on the amount of forested habitat on the landscape. Kiser and MacGregor (2005) suggested that greater netting effort may be required to capture bats on landscapes having a high percentage of forest.

**Paragraph 3:**

"First, mist nets cannot be deployed in all habitats used by Indiana bats, thereby leaving some sites under-sampled."

**Comment:** Due to limitations of the current/future acoustical data analysis, the identification programs require calls to be collected in open canopy areas having no vegetation interferences. This means that forested habitats will now be under-sampled. Even good bat travel corridors (e.g. woods roads and streams) having low (< 10m) canopy will not be suitable for acoustic sampling. I think this justifies the need to incorporate both acoustical and mist net sampling into future guidelines to determine the presence of Indiana bats.

"Additionally, white-nose syndrome (WNS) has served to dramatically reduce bat densities, thereby reducing the effectiveness of mist-netting to capture bats."

**Comment:** This is true in the northeastern U.S., so acoustical surveys in those areas are acceptable. However, I think if Indiana bats are detected using acoustics then developers should have to conduct Phase 3 surveys if they want to continue with projects. If Indiana bats occur in these areas then it is very important that we know population size and habitat use prior to issuing an “Incidental Take Permit” under ESA.

“Finally, capturing bats increases the possibility of spreading the fungus that causes WNS.”

**Comment:** I am not aware of any published or unpublished literature that shows WNS can be spread during summer months. This is an area where we need additional information on WNS.

## **PAGE 2**

### **Paragraph 1:**

“With these advancements and since many bat echolocation characteristics are species-specific, bat detectors are now more efficient at documenting individual species presence than the time-consuming and labor-intensive traditional capture techniques such as mist-netting (Murray et al. 1999).”

**Comment:** I agree mist netting is very time-consuming and labor intensive, but you can base the species presence by having it in your hand and can photograph the species. This type of species identification is not altered by the data collection site, or a call created by a common bat flying through clutter. We still don’t fully understand how multiple bats in one small area affects the call quality produced by each. I know from experience the calls produced by bats exiting a cave, or summer roost is not their typical calls.

“Thus, the USFWS’ decision to use ultrasonic detectors to determine the presence or probable absence of the Indiana bats and to focus subsequent survey efforts is a logical use of this technology in the current environment.”

**Comment:** This would be a good use of the technology, if developers could prove the inaccuracy of the acoustical data by netting and not just be required to assume presence from acoustical data. Netting near the acoustical detection site could be greatly increased (more than required now) to have a greater chance of capturing an Indiana bat. However, if Phase 3 surveys are unsuccessful at capturing the Indiana bat then it should be assumed the species is not roosting in the area. This type of data interpretation would also provide a valid, cost effective reason for developers to conduct Phase 3 Surveys, especially in states that have Indiana bat MOU’s to mitigate for unknown but potential Take.

### **Paragraph 2:**

“Following these guidelines will help: 1) standardize survey procedures rangewide; ....”

**Comment:** Standardizing of guidelines across the Indiana bat’s range has been a wish of everyone that has worked in multiple states. However, in the next paragraph you say “These situations must be resolved through coordination with the USFWS Ecological Services Field

Office (USFWS FO) responsible for the state in which your project occurs”, so these guidelines, if approved, still won’t completely standardize the Indiana bat survey guidance.

“Although acoustic detections and/or capture of Indiana bats confirm their presence, failure to acoustically detect or catch them does not absolutely confirm their absence.”

**Comment:** Not sure how you can conclude that acoustic detections of Indiana bats confirm their presence when bat species cannot always be distinguished reliably from one another due to similarity of call structure between particular species, namely the Indiana bat (*Myotis sodalis*) and little brown bat (*Myotis lucifugus*). It has also been suggested by automated bat identification programmers that poor quality eastern red bat (*Lasiurus borealis*) calls can often be mistaken for Indiana bat calls. In addition, call structure is greatly influenced by environmental factors (e.g. vegetation, other bats present), so automated ID systems can produce false positives for the Indiana bat and/or other species.

### Paragraph 3:

“Indiana bat surveys for some proposed projects will require modification (or clarification) of these guidelines.”

**Comment:** So this survey methodology is no more standardized than the 2007 guidelines because some USFWS Field Offices may ask for variations to the proposed guidelines.

### Paragraph 4:

“However, if proposed sample sites are more than 1,000 feet from the project site boundary, then the USFWS FO should be consulted.”

**Comment:** The time it takes to consult with Field Offices may result in surveyors not surveying the best available sites. Why require consultation on the distance your sampling point is located, especially for mist netting (requires specific conditions to funnel bats that may not occur on linear corridors), when the survey spacing for linear corridor projects is 1 km (0.62 miles). This 1 km distance is based on minimal distances traveled by reproductive female Indian bats.

## PAGE 4

### Paragraph 1: (first full paragraph)

“Suitable summer roosting habitat is characterized by the presence of exfoliating bark, cracks,...that are >3<sup>3</sup> inches diameter...”

**Comment:** This seems extremely small. Is this diameter from spring and autumn studies, or summer studies? If you look at all published and unpublished diameters for trees used by summering bats, I would think 99% of these trees have a dbh much larger than 3”.

Footnote #3, “While any tree greater than...”

**Comment:** I agree with this statement and I think Phase 1 (habitat assessments) Surveys should collect estimated ranges for diameters while conducting assessments. These should be

collected for dominant overstory and midstory trees. In addition, the forest structure is important. Documenting canopy gaps and other characters which provide open areas in the forest is worth documenting.

## **PAGE 5**

Flow chart box, "Assume presence of maternity colony"

**Comment:** I think Phase 3 (netting) Surveys should be required by USFWS because we can't determine the amount of take or even determine if the bat was a male or female, or just a transient moving through the site.

### **Paragraph 2:**

"If the acoustic surveys indicate that Indiana bats are present, then there are two options...."

JK – If Phase 3 (netting) Surveys are not completed successfully, we don't have sufficient information to determine the size of colonies, or number of colonies in the area because these are greatly dependent on quality of habitat. Some areas where bats are captured >3 miles apart probably represent two colonies, whereas in other areas with limited habitat, it may be individuals from the same colony attempting to find good foraging/roosting habitat. Bats traveled greater distances in highly fragmented forest near Fort Drum, NY than in more forested regions.

## **PAGE 8**

### **Paragraph 2:**

"While no formal training is required for conducting habitat assessments, we prefer..."

**Comment:** The most important phase in these new guidelines is the habitat assessment. This phase determines the need for Phase 2 surveys, but no type of permitting and/or certification for evaluators is currently required. I think it would be difficult for someone who has never seen a variety of roost trees used by Indiana bats to be able to determine the number of potential roost trees present within the project area as required on the field data sheets. It also seems important for the evaluator to be able to differentiate between potential alternate and primary roost trees during the habitat assessments. A certification process would require biologists completing the Phase 1 habitat assessments to at least have some knowledge of the summer roost tree literature or at least personal experience with various types of roost trees. By differentiating between potential alternate and primary roost trees during habitat assessments, it would also provide valuable data in the event that Phase 2 acoustical surveys identify the Indiana bat and the developer doesn't want to conduct Phase 3 mist net surveys. This data could then be used during Formal Consultation when estimating the amount of Take.

## **PAGE 10 (Field Data Sheet)**

"Indiana bat habitat assessment datasheet: flight corridors to other forested areas?"

**Comment:** For untrained people and those not very familiar with Indian bat literature, flight corridors may be missed in fragmented landscapes. Some information shows Indian bats flying along non-forested ditches in agricultural fields. Flight corridors can also be the edge of corn fields. I am not sure if this habitat characteristic is important.

## **PAGE 11 (Field Datasheet)**

“Describe existing condition of water sources:”

**Comment:** This needs to be determined in field and not just obtained from mapping. Small upland ponds and water-filled road-ruts have been documented as water sources for Indiana bats. These types of water sources would be missed if aerial imagery is only used. Datasheet should say field delineated.

Closure/Density - “1=1-10%, 2=11-20%, ....”

**Comment:** Unless you provide a method for collecting this data, I would suggest just using “very open, open, moderately open, moderately dense, and dense”.

“% trees w/ exfoliating bark”

**Comment:** Due to the large number of non-exfoliating trees in a project area, the percentage of exfoliating bark trees is always going to be low. For most areas this just doesn't make sense.

“No. of suitable snags”

**Comment:** Should differentiate between potential primary and alternate roost trees based on the experience of the surveyor and the existing literature.

“Photographic Documentation:...”

**Comment:** This makes sense for small project areas, but not for larger areas, such as surface mines. It also makes very little sense for long, linear corridor projects (e.g. gas transmission lines).

## **PAGE 12**

### **Paragraph 2:**

“Individuals must have a working knowledge of the acoustic equipment, ....”

**Comment:** Certification or permit is needed to prevent unqualified folks from collecting poor quality data.

## **PAGE 13**

### **Paragraph 3:**

“Thus, at least 10 recorded bat calls....”

**Comment:** One of your reasons for this guidance is to document bat use in areas devastated by WNS, but acoustical surveys in some of these areas may not record that many calls.

#### **PAGE 14**

##### **Paragraph 3:**

“Detectors must be properly placed at suitable monitoring sites....”

**Comment:** If we are placing detectors in open canopy habitats, does this mean surveys should not be completed on nights where the moon light is bright? It is thought bats may avoid open areas when moonlight is present.

#### **PAGE 14/15**

Top sentence: “Deployment of detectors in closed-canopy locations that typically are...”

**Comment:** I think we need to know how high canopy can be before it doesn’t affect call quality – are there published data pertaining to this aspect? If so, it should be cited.

#### **PAGE 15**

##### **Paragraph 2:**

“Call characteristics of bats emerging from a roost tree....”

**Comment:** You should also include mines, caves, and any other roost sites.

##### **Paragraph 4 bullets:**

“For non-linear projects: One site per 30 acres of suitable habitat.”

**Comment:** This amount of effort seems high. What literature did you base this on?

#### **PAGE 16**

“#1. Any call identification analysis program should be based on ....”

**Comment:** I think it will be a big mistake if you don’t designate a single government developed program. How will other programs be determined to work properly?

#### **PAGE 19**

##### **Footnote #6:**

“Several USFWS offices maintain lists of qualified bat surveyors and if working....”

**Comment:** Why don’t states automatically place individuals on these lists, if they retain a federal permit? This seems like a waste of time to get approved by the USFWS twice.

#### **PAGE 25**

**Paragraph 1:**

“Photo documentation of all bats captured and identified...”

**Comment:** This makes no sense to me because it increases the handling time. I think only *Myotis* that are hard to ID and all endangered bats should be photographed. Not the first 10 *M. lucifugus*. We should also be requiring all *Myotis* to be banded.

**PAGE 29**

Mist netting datasheet

**Comment:** I hope these are example field data sheets and this is not the format required under new guidance. I think as long as all the required data is on a data sheet then format shouldn't be an issue.

**PAGE 34**

Phase 4 Radio tracking roost tree datasheet

**Comment:** I like this field data sheet. It may be the most useful field data sheet I've seen. However, some folks don't like to give out phone numbers.

**PAGE 39**

USFWS bat emergence survey datasheet

**Comment:** This is a good datasheet outline!

I hope these comments are useful when evaluating these proposed guidelines. Please contact me if you have any questions.

Sincerely,

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